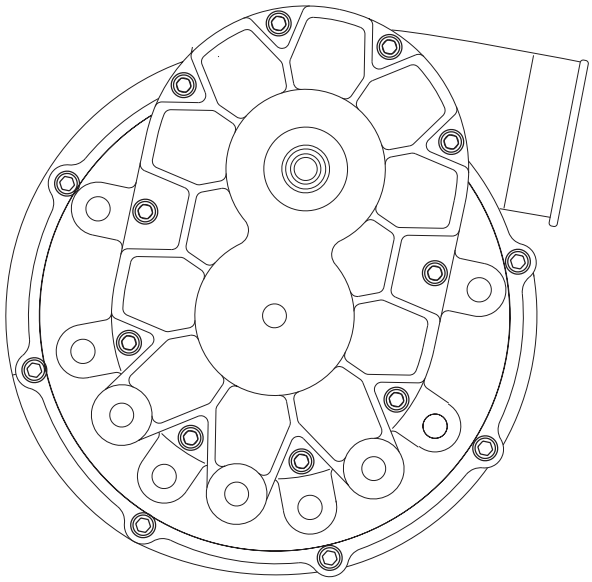
CHEVROLET CORVETTE

Supercharger System Installation Instructions

2005-2008 Model Years
50 State Smog Legal per CARB EO #D-213-27



VORTECH®

ENGINEERING, LLC

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Fax: 805 247-0669 • www.vortechsuperchargers.com • M-F 8:00AM - 4:30PM (PST)

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29MAY09 v3.1 05-08Corvette(4GSv3.1)

FOREWORD

This manual provides information on the installation, maintenance and service of the Vortech supercharger kit expressly designed for this vehicle. All information, illustrations and specifications contained herein are based on the latest product information available at the time of this publication. Changes to the manual may be made at any time without notice. Contact Vortech Engineering for any additional information regarding this kit and any of these modifications at (805) 247-0228 8:00am-4:30pm PST.

Take note of the following before proceeding:

1. Proper installation of this supercharger kit requires general automotive mechanic knowledge and experience. Please browse through each step of this instruction manual prior to beginning the installation to determine if you should refer the job to a professional installer/technician. Please contact your dealer or Vortech Engineering for possible installers in your area.

2. This product was designed for use on stock (*un-modified, OEM*) vehicles. The PCM (*computer*), engine, transmission, drive axle ratios and tire O.D. must be stock. If the vehicle or engine has been modified in any way, check with Vortech prior to installation and use of this product.

3. Use only premium grade fuel with a minimum of 91 octane (*R+M/2*).

4. Always listen for any sign of detonation (*knocking/pinging*) and discontinue hard use (*no boost*) until the problem is resolved.

5. Vortech is not responsible for any clutch, transmission, drive-line or engine damage.

Exclusions from Vortech warranty coverage considerations include, but not limited to:

1. Neglect, abuse, lack of maintenance, abnormal operation or improper installation.

2. Continued operation with an impaired vehicle or sub-system.

3. The combined use of Vortech components with other modifications such as, but not limited to, exhaust headers, aftermarket camshafts, nitrous oxide, third party PCM programming or other such changes.

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GM Chevrolet Corvette
IMPORTANT NOTES

This product is protected by state common law, copyright and/or patent. All legal rights therein are reserved.

The design, layout, dimensions, geometry and engineering features shown in this product are the exclusive property of Vortech Engineering, LLC.

This product may not be copied or duplicated in whole or part, abstractly or fundamentally, intentionally or fortuitously, nor shall any design, dimension, or other information be incorporated into any product or apparatus without prior written consent of Vortech Engineering, LLC.

The Corvette fuel delivery system is marginal for high horsepower applications. It is important to install a fuel pressure gauge on the vehicle and verify that the fuel pressure stays above 50 psi (especially at redline). Engine damage can result if the fuel pressure drops below this level and allows the air-fuel ratio to go lean.

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CHEVROLET C6 CORVETTE
Installation Instructions

Congratulations on selecting the best performing and best supported automotive supercharger available today... the VORTECH® Supercharger!

Before beginning this installation, please read through this entire instruction booklet and the Street Supercharger System Owner's Manual and Automotive Limited Warranties Program.
Vortech supercharger systems are performance improving devices. In most cases, increases in torque of 20% to 35% and horsepower of 35% to 50% can be expected with the boost levels specified by Vortech Engineering, LLC. This product is intended for use on healthy, well maintained engines. Installation on a worn-out or damaged engine is not recommended and may result in failure of the engine as well as the supercharger. Vortech Engineering, LLC is not responsible for engine damage.
Installation on new vehicles will not harm or adversely affect the break-in period so long as factory break-in procedures are followed.

For best performance and continued durability, please take note of the following key points:

1. Use only premium grade fuel 91 octane or higher (R+M/2).
2. The engine must have stock compression ratio.
3. If the engine has been modified in any way, check with Vortech prior to using this product.
4. Always listen for any sign of detonation (pinging) and discontinue hard use (no boost) until problem is resolved.
5. Perform an oil and filter change upon completion of this installation and prior to test driving your vehicle. Thereafter, always use a high quality synthetic lubricant, and change the oil and filter at least every 3,000 miles. Never attempt to extend the oil change interval beyond 3,000 miles, regardless of oil manufacturer's claims, as potential damage to the supercharger may result.
6. Before beginning installation, replace all spark plugs that are older than 1 year or 20,000 miles with original heat range plugs as specified by the manufacturer (follow the procedures outlined in the factory repair manual and/or as indicated on the factory underhood emissions tag). Do not use platinum spark plugs unless they are original equipment. Change spark plugs every 40,000 miles and spark plug wires at least every 60,000 miles.

TOOL & SUPPLY REQUIREMENTS

- Factory repair manual
- 3/8" socket and drive set: SAE & metric
- Flat #2 screwdriver
- Phillips #2 screwdriver
- Adjustable wrench
- Combination wrenches: SAE and metric
- 16mm thin combination wrench
- 1/8", 1/4", 5/16", 11/16" drill bits
- 1/4", 3/16" allen wrenches
- 1 gallon factory specified engine coolant
- 1.25" hole saw
- 1 quart factory specified power steering fluid
- Power steering pulley puller and installer
- Thread sealer
- Hose cutter or knife
- Blue threadlocker
- 6 quarts factory specified motor oil/oil filter
- Spring-lock fitting disconnect tool
- 3/8" drill motor
- Wire cutter/crimp tool
- Torque wrench
- 3/8 NPT tap
- Stepless clamp pliers
- Flare nut, 13mm crows foot 3/8" drive
- Fuel pressure gauge

GM TOOLS

- J 42386 flywheel holding tool
- J 36660 torque angle meter
- Factory service manual

Note: If your vehicle has in excess of 20,000 miles since its last spark plug change, then you will need:

- Spark plug socket
- Eight new OE heat range spark plugs

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2005-2007 Corvette LS2 C6 (V-2)

2005 Part No. 4GS218-010SQ, 2006-2007 Part No. 4GS218-030SQ

VORTECH® ENGINEERING, LLC

PARTS LIST

IMPORTANT: Before beginning installation, verify that all parts are included in the kit. Report any shortages or damaged parts immediately.

PART NO.	DESCRIPTION	QTY.
2E229-250	**V2 T-TRIM, H/D, ASY**	**1**
2A036-450	S/C PULLEY 4.50" 6-GROOVE	1
2A046-926	BELT, K060926-GATES 92.6" 6-RIB	1
4GS111-021	**MTG BRKT ASY**	**1**
2A017-375	SPACER, .375", C6, IDLER	1
4GR116-300	IDLER ASY, 20MM BELT	1
4GS010-010	PLATE, C6 SPRING TENS	1
4GS010-044	PLATE, S/C MOUNTING	1
4GS011-021	C6 MTG BRKT, MACH	1
4GS017-063	BUSHING, Ø.725" X .67", SLOTTED	2
4PCV011-052	SPRING TENSIONER	1
7A375-100	3/8-16 X 1" G5 HHCS, PLT	2
7A375-124	3/8-16 X 1-1/4" HXHD G5 PLATED	3
7A375-276	3/8-16 X 2-3/4" HXHD ZINC	1
7A375-525	3/8-16 X 5-1/4" HXCS G5 P	3
7C010-048	M10-1.5 X 50MM FHCS ZINC	1
7C010-074	M10-1.5 X 75MM HHCS	2
7C010-038	M10-1.5 X 35MM SHCS CL10.9	1
7C010-028	M10-1.5 X 25MM, 15MM HEAD CS	1
7J010-002	10MM WASHER, ZINC PLATED	16
7F375-016	3/8-16 HEX NUT	1
4GS130-026	**OIL FEED LINE ASY, C6**	**1**
7P125-004	1/8"NPT 90° X -4 JIC FTG	1
7P250-016	M16 X 1.5 TO -4 JIC MALE	1
7U100-055	TIE-WRAP, 6" NYLON	5
7U100-066	TIE-WRAP, 11" NYLON	2
7U250-090-260	OIL FEED HOSE, 26" X -4 X 90°	1
4GS130-036	**OIL DRAIN LINE ASY, C6**	**1**
7P375-017	3/8"NPT X 1/2" BEADED HSE BRB	1
7R001-008	#8 STNLS HOSE CLAMP	2
7T560-001	CUTTER, 9/16" ROTABROACH	1
7T560-002	ARBOR, ROTABROACH	1
7U030-036	1/2" OIL DRAIN HOSE	2.75
4GS112-010	**AIR INTAKE ASY, C6**	**1**
4GS012-010	DUCT, INLET	1
7P375-008	ELBOW, 3/8" X 90° UNION	2
7P375-113	PCV VALVE, VIPER, 3/8"-1/2" HOSE X 90°	1
7P500-003	1/2"-3/8" REDUCER BARB UNION	1
7R002-060	#60 SAE TYPE "F" SS HOSE CLAMPS	2
7S375-150	SLEEVE, 3.75" X 1.50"L, BLUE	1
7U030-056	3/8" PCV HOSE	4
7U037-030	-8 USCG FUEL HOSE, PUSH-ON	0.167"
8H040-050	AIR FILTER 3.5" FLG X 7"L	1
8N108-020	**WELDED CAC ASY, C6**	**1**
4GS112-020	**DISCHARGE ASY, C6**	**1**
4GS012-020	DUCT, S/C DISCHARGE, W/FLANGE	1
4NT012-010	DISCHARGE TUBE	1
7P062-187	1/16"NPT X 3/16" HOSE BARB	1
7P500-016	TEE, .5" X .5" X 1/16"NPT, METAL	1
7R001-008	#8 STNLS HOSE CLAMP	2
7R002-044	#44 GOLDSEAL HOSE CLAMP	5
7R002-048	#48 GOLDSEAL HOSE CLAMP	1
7R002-056	#56 SAE TYPE "F" SS HOSE CLAMP	3
7S275-055	ELBOW, 2.75" X 55° SILICONE	1
7S275-300	SLEEVE, 2-3/4" X 3", BLUE	1
7S300-275	REDUCER, 3.00"-2.75"	1
7S350-200	SLEEVE, 3-1/2" X 2", BLUE	1
7U030-046	5/32" VACUUM LINE	7
7U100-044	TIE-WRAP, 4" NYLON	5
7U100-055	TIE-WRAP, 6" NYLON	10
8D204-003	RACE BYPASS VALVE-BLUE	1
7F010-024	10-24 NYLOCK NUT	1
7C010-150	10-24 X 1-1/2" SHCS	1
7J010-001	#10 FLAT WASHER	2

PART NUMBER	DESCRIPTION	QTY.
4GS112-030	**CAC PARTS, LS2 C6**	**1**
4GS010-050	BRKT, DRVR SIDE CAC MTG	1
4GS010-060	BRKT, PSGR SIDE CAC MTG	1
4GS012-030	DUCT, CAC TO TBODY, C6	1
7A312-151	5/16-18 X 1.5" SET SCRW OVAL PT	4
7F312-018	5/16-18 NUT USS PLTD	8
7J312-000	5/16" FLAT WASHER-SAE	12
7R002-056	#56 HOSE CLAMP	3
7R002-060	#60 HOSE CLAMP	2
7R002-064	#64 GOLDSEAL HOSE CLAMP	1
7S400-350	REDUCER, 4" X 3.5"	1
7S400-351	REDUCER SLV 4.00" - 3.5" X 2.35"L	1
8F060-048	FUEL INSTALLATION, 39LB EV6	8
7C060-025	M6-1.00 X 25MM, HEX	4
2A017-031	SPACER, .38"	4
7U012-007	O-RING, FUEL INJ, 4MMX7MM	8
4GR110-110	**ASY, CORVETTE DAMPER PIN**	**1**
4GR010-110	GUIDE, DWL PIN INST. VETTE	1
7C016-010	BOLT, LS1, M16 x 2.0mm	1
7C016-100	BOLT, M16-2.0 x 100mm, SHCS	1
7U250-026	DRILL BUSHING, 1/4"ID, 1/2"L	1
7U250-019	DOWEL PIN 1/4" x .5"L	1
4GS020-010	**CORVETTE V8 MANUAL**	**1**
4GS110-100	**RADIATOR SHROUD ASY, C6**	**1**
4GS010-100	SPT, DRIVER SIDE RAD. C6	1
4GS010-110	SPT, PSGR SIDE RAD. C6	1
4GS010-120	SIDE PANEL, PSGR SIDE RAD. C6	1
4GS010-130	SIDE PANEL, DRIVER SIDE RAD. C6	1
4GS010-140	SIDE PANEL, LWR, DRIVER SIDE RAD. C6	1
7U600-656	WTHR-STRIP, .078"-.093" EDGE, .656" BULB	4
7C010-052	10-24 X 1/2" SS BHCS	4
7F010-024	10-24 NYLOCK NUT	4
2A017-752-03	SPACER, .750"OD X .927"L	4
7C080-051	M8-1.25 X 50MM HXHD CL10.9	4
7J312-000	5/16" FLAT WASHER-SAE	4
5A003-039	**DIABLO PREDATOR, 2005**	**1**
5A003-040	**DIABLO PREDATOR, 2006**	**1**
008110	**SMALL SILVER DIE CUT DECAL**	**2**
008130	**LICENSE PLATE FRAME, VORTECH**	**1**
008444	**S/C STREET PACKAGE ASY**	**1**

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2005-2007 Corvette LS2 C6 (V-3)

2005 Part No. 4GS218-010L/-018L, 2006-2007 Part No. 4GS218-030L/-038L

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PARTS LIST

IMPORTANT: Before beginning installation, verify that all parts are included in the kit. Report any shortages or damaged parts immediately.

PART NO.	DESCRIPTION	QTY.
2F359-010	**V3 T-TRIM, ASY**	**1**
2A036-450	S/C PULLEY 4.50" 6-GROOVE	1
2A046-926	BELT, K060926-GATES 92.6" 6-RIB	1
4GS111-021	**MTG BRKT ASY**	**1**
2A017-375	SPACER, .375", C6, IDLER	1
4GR116-300	IDLER ASY, 20MM BELT	1
4GS010-010	PLATE, C6 SPRING TENS	1
4GS010-044	PLATE, S/C MOUNTING	1
4GS011-021	C6 MTG BRKT, MACH	1
4GS017-063	BUSHING, Ø.725" X .67", SLOTTED	2
4PCV011-052	SPRING TENSIONER	1
7A375-100	3/8-16 X 1" G5 HHCS, PLT	2
7A375-124	3/8-16 X 1-1/4" HXHD G5 PLATED	3
7A375-276	3/8-16 X 2-3/4" HXHD ZINC	1
7A375-525	3/8-16 X 5-1/4" HXCS G5 P	3
7C010-048	M10-1.5 X 50MM FHCS ZINC	1
7C010-074	M10-1.5 X 75MM HHCS	2
7C010-038	M10-1.5 X 35MM SHCS CL10.9	1
7C010-028	M10-1.5 X 25MM, 15MM HEAD CS	1
7J010-002	10MM WASHER, ZINC PLATED	16
7F375-016	3/8-16 HEX NUT	1
4GS112-010	**AIR INTAKE ASY, C6**	**1**
4GS012-010	DUCT, INLET	1
7P375-008	ELBOW, 3/8" X 90° UNION	2
7P375-113	PCV VALVE, VIPER, 3/8"-1/2" HOSE X 90°	1
7P500-003	1/2"-3/8" REDUCER BARB UNION	1
7R002-060	#60 SAE TYPE "F" SS HOSE CLAMPS	2
7S375-150	SLEEVE, 3.75" X 1.50"L, BLUE	1
7U030-056	3/8" PCV HOSE	4
7U037-030	-8 USCG FUEL HOSE, PUSH-ON	0.167"
8H040-050	AIR FILTER 3.5" FLG X 7"L	1
8N108-020	**WELDED CAC ASY, C6**	**1**
4GS112-020	**DISCHARGE ASY, C6**	**1**
4GS012-020	DUCT, S/C DISCHARGE, W/FLANGE	1
4NT012-010	DISCHARGE TUBE	1
7P062-187	1/16"NPT X 3/16" HOSE BARB	1
7P500-016	TEE, .5" X .5" X 1/16"NPT, METAL	1
7R001-008	#8 STNLS HOSE CLAMP	2
7R002-044	#44 GOLDSEAL HOSE CLAMP	5
7R002-048	#48 GOLDSEAL HOSE CLAMP	1
7R002-056	#56 SAE TYPE "F" SS HOSE CLAMP	3
7S275-055	ELBOW, 2.75" X 55° SILICONE	1
7S275-300	SLEEVE, 2-3/4" X 3", BLUE	1
7S300-275	REDUCER, 3.00"-2.75"	1
7S350-200	SLEEVE, 3-1/2" X 2", BLUE	1
7U030-046	5/32" VACUUM LINE	7
7U100-044	TIE-WRAP, 4" NYLON	5
7U100-055	TIE-WRAP, 6" NYLON	10
8D204-003	RACE BYPASS VALVE-BLUE	1
7F010-024	10-24 NYLOCK NUT	1
7C010-150	10-24 X 1-1/2" SHCS	1
7J010-001	#10 FLAT WASHER	2
4GS112-030	**CAC PARTS, LS2 C6**	**1**
4GS010-050	BRKT, DRVR SIDE CAC MTG	1
4GS010-060	BRKT, PSGR SIDE CAC MTG	1
4GS012-030	DUCT, CAC TO TBODY, C6	1
7A312-151	5/16-18 X 1.5" SET SCRW OVAL PT	4
7F312-018	5/16-18 NUT USS PLTD	8
7J312-000	5/16" FLAT WASHER-SAE	12
7R002-056	#56 HOSE CLAMP	3
7R002-060	#60 HOSE CLAMP	2
7R002-064	#64 GOLDSEAL HOSE CLAMP	1
7S400-350	REDUCER, 4" X 3.5"	1
7S400-351	REDUCER SLV 4.00" - 3.5" X 2.35"L	1

PART NUMBER	DESCRIPTION	QTY.
8F060-048	FUEL INSTALLATION, 39LB EV6	8
7C060-025	M6-1.00 X 25MM, HEX	4
2A017-031	SPACER, .38"	4
7U012-007	O-RING, FUEL INJ, 4MMX7MM	8
4GR110-110	**ASY, CORVETTE DAMPER PIN**	**1**
4GR010-110	GUIDE, DWL PIN INST. VETTE	1
7C016-010	BOLT, LS1, M16 x 2.0mm	1
7C016-100	BOLT, M16-2.0 x 100mm, SHCS	1
7U250-026	DRILL BUSHING, 1/4"ID, 1/2"L	1
7U250-019	DOWEL PIN 1/4" x .5"L	1
4GS020-010	**CORVETTE V8 MANUAL**	**1**
4GS110-100	**RADIATOR SHROUD ASY, C6**	**1**
4GS010-100	SPT, DRIVER SIDE RAD. C6	1
4GS010-110	SPT, PSGR SIDE RAD. C6	1
4GS010-120	SIDE PANEL, PSGR SIDE RAD. C6	1
4GS010-130	SIDE PANEL, DRIVER SIDE RAD. C6	1
4GS010-140	SIDE PANEL, LWR, DRIVER SIDE RAD. C6	1
7U600-656	WTHR-STRIP, .078"-.093" EDGE, .656" BULB	4
7C010-052	10-24 X 1/2" SS BHCS	4
7F010-024	10-24 NYLOCK NUT	4
2A017-752-03	SPACER, .750"OD X .927"L	4
7C080-051	M8-1.25 X 50MM HXHD CL10.9	4
7J312-000	5/16" FLAT WASHER-SAE	4
5A003-039	**DIABLO PREDATOR, 2005**	**1**
5A003-040	**DIABLO PREDATOR, 2006**	**1**
008110	**SMALL SILVER DIE CUT DECAL**	**2**
008130	**LICENSE PLATE FRAME, VORTECH**	**1**
008447	**S/C STREET PACKAGE ASY**	**1**
009035	**LUBE ASSY**	**1**

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Corvette C6: '06-'08 LS7, '08 LS3 (V-2)

Part No. 4GS218-020SQ

VORTECH® ENGINEERING, LLC

PARTS LIST

IMPORTANT: Before beginning installation, verify that all parts are included in the kit. Report any shortages or damaged parts immediately.

PART NO.	DESCRIPTION	QTY.
2E229-250	**V2 T-TRIM, H/D, ASY, C6 ZO6**	**1**
2A036-450	S/C PULLEY 4.50" 6-GROOVE	1
2A046-926	BELT, K060926-GATES 92.6" 6-RIB	1
4GS111-021	**MTG BRKT ASY**	**1**
2A017-375	SPACER, .375", C6, IDLER	1
4GR116-300	IDLER ASY, 20MM BELT	1
4GS010-010	PLATE, C6 SPRING TENS	1
4GS010-044	PLATE, S/C MOUNTING	1
4GS011-021	C6 MTG BRKT, MACH	1
4GS017-063	BUSHING, Ø.725" X .67", SLOTTED	2
4PCV011-052	SPRING TENSIONER	1
7A375-100	3/8-16 X 1" G5 HHCS, PLT	2
7A375-124	3/8-16 X 1-1/4" HXHD G5 PLATED	3
7A375-276	3/8-16 X 2-3/4" HXHD ZINC	1
7A375-525	3/8-16 X 5-1/4" HXCS G5 P	3
7C010-048	M10-1.5 X 50MM FHCS ZINC	1
7C010-074	M10-1.5 X 75MM HHCS	2
7C010-038	M10-1.5 X 35MM SHCS CL10.9	1
7C010-028	M10-1.5 X 25MM, 15MM HEAD CS	1
7J010-002	10MM WASHER, ZINC PLATED	16
7F375-016	3/8-16 HEX NUT	1
4GS130-026	**OIL FEED LINE ASY, C6**	**1**
7P125-004	1/8"NPT 90° X -4 JIC FTG	1
7P250-016	M16 X 1.5MM TO -4 JIC MALE	1
7U100-055	TIE-WRAP, 6" NYLON	5
7U100-066	TIE-WRAP, 11" NYLON	2
7U250-090-260	OIL FEED HOSE, 26" X -4 X 90°	1
4GS130-036	**OIL DRAIN LINE ASY, C6**	**1**
7P375-017	3/8"NPT X 1/2" BEADED HSE BRB	1
7R001-008	#8 STNLS HOSE CLAMP	2
7T560-001	CUTTER, 9/16" ROTABROACH	1
7T560-002	ARBOR, ROTABROACH	1
7U030-036	1/2" OIL DRAIN HOSE	2.75
4GS112-010	**AIR INTAKE ASY, C6**	**1**
4GS012-010	DUCT, INLET	1
7P375-008	ELBOW, 3/8" X 90° UNION	2
7P375-113	PCV VALVE, VIPER, 3/8"-1/2" HOSE X 90°	1
7P500-003	1/2"-3/8" REDUCER BARB UNION	1
7R002-060	#60 SAE TYPE "F" SS HOSE CLAMPS	2
7S375-150	SLEEVE, 3.75" X 1.50"L, BLUE	1
7U030-056	3/8" PCV HOSE	4
7U037-030	-8 USCG FUEL HOSE, PUSH-ON	0.167"
8H040-050	AIR FILTER 3.5" FLG X 7"L	1
8N108-020	**WELDED CAC ASY, C6**	**1**
4GS112-020	**DISCHARGE ASY, C6**	**1**
4GS012-020	DUCT, S/C DISCHARGE, W/FLANGE	1
4NT012-010	DISCHARGE TUBE	1
7P062-187	1/16"NPT X 3/16" HOSE BARB	1
7P500-016	TEE, .5" X .5" X 1/16"NPT, METAL	1
7R001-008	#8 STNLS HOSE CLAMP	2
7R002-044	#44 GOLDSEAL HOSE CLAMP	5
7R002-048	#48 GOLDSEAL HOSE CLAMP	1
7R002-056	#56 SAE TYPE "F" SS HOSE CLAMP	3
7S275-055	ELBOW, 2.75" X 55° SILICONE	1
7S275-300	SLEEVE, 2-3/4" X 3", BLUE	1
7S300-275	REDUCER, 3.00"-2.75"	1
7S350-200	SLEEVE, 3-1/2" X 2", BLUE	1
7U030-046	5/32" VACUUM LINE	7
7U100-044	TIE-WRAP, 4" NYLON	5
7U100-055	TIE-WRAP, 6" NYLON	10
8D204-003	RACE BYPASS VALVE-BLUE	1
7F010-024	10-24 NYLOC NUT	1
7C010-150	10/24 X 1-1/2" SHCS	1
7J010-001	#10 FLAT WASHER	2

PART NUMBER	DESCRIPTION	QTY.
4GS112-070	**CAC PARTS, LS7 ZO6**	
4GS010-050	BRKT, DRVR SIDE CAC MTG	1
4GS010-060	BRKT, PSGR SIDE CAC MTG	1
4GS010-070	BRKT, ZO6 OIL COOLER	1
4GS012-030	DUCT, CAC TO TBODY, C6	1
7A312-151	5/16-18 X 1.5" SET SCRW OVAL PT	4
7C040-008	M4-.7MM X 8MM SCHD SS	2
7F312-018	5/16-18 NUT USS PLTD	8
7J312-000	5/16" FLAT WASHER-SAE	12
7R002-064	#64 GOLDSEAL HOSE CLAMP	3
7S400-200	SLEEVE, 4" X 2"L, BLUE	1
7S400-351	REDUCER SLV 4.00" - 3.5" X 2.35"L	1
8A003-071	MAF, 3.8"ID, '05 MUSTANG GT	1
7U012-007	O-RING, FUEL INJ, 4MMX7MM	8
4GS110-110	**ASY, DAMPER PIN LS7**	**1**
4GR010-110	GUIDE, DWL PIN INST, VETTE	1
7C016-010	BOLT, LS1, M16X100MM	1
7C016-100	BOLT, M16X100 SHCS	1
7C016-125	BOLT, LS7, M16-2.0 X 125MM	1
7C016-135	BOLT, M16-2.0 X 135MM, SHCS	1
7U250-019	DOWEL PIN, 1/4" X 1/2" +.001"	1
7U250-026	DRILL BUSHING, 1/4"ID, 3/8"OD, 1/2"L	1
8F060-066	**FUEL INJECTOR, 66LBS SHORT**	**8**
5W001-051	**HARNESS, INJ ADAPT 99+ FORD 4V**	**8**
4GS020-010	**CORVETTE V8 MANUAL**	**1**
4GS110-100	**RADIATOR SHROUD ASY, C6**	**1**
4GS010-100	SPT, DRIVER SIDE RAD. C6	1
4GS010-110	SPT, PSGR SIDE RAD. C6	1
4GS010-120	SIDE PANEL, PSGR SIDE RAD. C6	1
4GS010-130	SIDE PANEL, DRIVER SIDE RAD. C6	1
4GS010-140	SIDE PANEL, LWR, DRIVER SIDE RAD. C6	1
7U600-656	WTHR-STRIP, .078"-.093" EDGE, .656" BULB	4
7C010-052	10-24 X 1/2" SS BHCS	4
7F010-024	10-24 NYLOCK NUT	4
2A017-752-03	SPACER, .750"OD X .927"L	4
7C080-051	M8-1.25 X 50MM HXHD CL10.9	4
7J312-000	5/16" FLAT WASHER-SAE	4
5A003-040	**DIABLO PREDATOR, '06-'07 GM**	**1**
008110	**SMALL SILVER DIE CUT DECAL**	**2**
008130	**LICENSE PLATE FRAME, VORTECH**	**1**
008444	**S/C STREET PACKAGE ASY**	**1**

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Corvette C6: '06-'08 LS7, '08 LS3 (V-3)

Part No. 4GS218-020L/-028L

VORTECH® ENGINEERING, LLC

PARTS LIST

IMPORTANT: Before beginning installation, verify that all parts are included in the kit. Report any shortages or damaged parts immediately.

PART NO.	DESCRIPTION	QTY.
2F359-010	**V3 T-TRIM, ASY, C6 ZO6**	**1**
2A036-450	S/C PULLEY 4.50" 6-GROOVE	1
2A046-926	BELT, K060926-GATES 92.6" 6-RIB	1
4GS111-021	**MTG BRKT ASY**	**1**
2A017-375	SPACER, .375", C6, IDLER	1
4GR116-300	IDLER ASY, 20MM BELT	1
4GS010-010	PLATE, C6 SPRING TENS	1
4GS010-044	PLATE, S/C MOUNTING	1
4GS011-021	C6 MTG BRKT, MACH	1
4GS017-063	BUSHING, Ø.725" X .67", SLOTTED	2
4PCV011-052	SPRING TENSIONER	1
7A375-100	3/8-16 X 1" G5 HHCS, PLT	2
7A375-124	3/8-16 X 1-1/4" HXHD G5 PLATED	3
7A375-276	3/8-16 X 2-3/4" HXHD ZINC	1
7A375-525	3/8-16 X 5-1/4" HXCS G5 P	3
7C010-048	M10-1.5 X 50MM FHCS ZINC	1
7C010-074	M10-1.5 X 75MM HHCS	2
7C010-038	M10-1.5 X 35MM SHCS CL10.9	1
7C010-028	M10-1.5 X 25MM, 15MM HEAD CS	1
7J010-002	10MM WASHER, ZINC PLATED	16
7F375-016	3/8-16 HEX NUT	1
4GS112-010	**AIR INTAKE ASY, C6**	**1**
4GS012-010	DUCT, INLET	1
7P375-008	ELBOW, 3/8" X 90° UNION	2
7P375-113	PCV VALVE, VIPER, 3/8"-1/2" HOSE X 90°	1
7P500-003	1/2"-3/8" REDUCER BARB UNION	1
7R002-060	#60 SAE TYPE "F" SS HOSE CLAMPS	2
7S375-150	SLEEVE, 3.75" X 1.50"L, BLUE	1
7U030-056	3/8" PCV HOSE	4
7U037-030	-8 USCG FUEL HOSE, PUSH-ON	0.167"
8H040-050	AIR FILTER 3.5" FLG X 7"L	1
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4GS112-020	**DISCHARGE ASY, C6**	**1**
4GS012-020	DUCT, S/C DISCHARGE, W/FLANGE	1
4NT012-010	DISCHARGE TUBE	1
7P062-187	1/16"NPT X 3/16" HOSE BARB	1
7P500-016	TEE, .5" X .5" X 1/16"NPT, METAL	1
7R001-008	#8 STNLS HOSE CLAMP	2
7R002-044	#44 GOLDSEAL HOSE CLAMP	5
7R002-048	#48 GOLDSEAL HOSE CLAMP	1
7R002-056	#56 SAE TYPE "F" SS HOSE CLAMP	3
7S275-055	ELBOW, 2.75" X 55° SILICONE	1
7S275-300	SLEEVE, 2-3/4" X 3", BLUE	1
7S300-275	REDUCER, 3.00"-2.75"	1
7S350-200	SLEEVE, 3-1/2" X 2", BLUE	1
7U030-046	5/32" VACUUM LINE	7
7U100-044	TIE-WRAP, 4" NYLON	5
7U100-055	TIE-WRAP, 6" NYLON	10
8D204-003	RACE BYPASS VALVE-BLUE	1
7F010-024	10-24 NYLOC NUT	1
7C010-150	10/24 X 1-1/2" SHCS	1
7J010-001	#10 FLAT WASHER	2
4GS112-070	**CAC PARTS, LS7 ZO6**	
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4GS010-070	BRKT, ZO6 OIL COOLER	1
4GS012-030	DUCT, CAC TO TBODY, C6	1
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7C040-008	M4-.7MM X 8MM SCHD SS	2
7F312-018	5/16-18 NUT USS PLTD	8
7J312-000	5/16" FLAT WASHER-SAE	12
7R002-064	#64 GOLDSEAL HOSE CLAMP	3
7S400-200	SLEEVE, 4" X 2"L, BLUE	1
7S400-351	REDUCER SLV 4.00" - 3.5" X 2.35"L	1
8A003-071	MAF, 3.8"ID, '05 MUSTANG GT	1
7U012-007	O-RING, FUEL INJ, 4MMX7MM	8

PART NUMBER	DESCRIPTION	QTY.
4GS110-110	**ASY, DAMPER PIN LS7**	**1**
4GR010-110	GUIDE, DWL PIN INST, VETTE	1
7C016-010	BOLT, LS1, M16X100MM	1
7C016-100	BOLT, M16X100 SHCS	1
7C016-125	BOLT, LS7, M16-2.0 X 125MM	1
7C016-135	BOLT, M16-2.0 X 135MM, SHCS	1
7U250-019	DOWEL PIN, 1/4" X 1/2" +.001"	1
7U250-026	DRILL BUSHING, 1/4"ID, 3/8"OD, 1/2"L	1
8F060-066	**FUEL INJECTOR, 66LBS SHORT**	**8**
5W001-051	**HARNESS, INJ ADAPT 99+ FORD 4V**	**8**
4GS020-010	**CORVETTE V8 MANUAL**	**1**
4GS110-100	**RADIATOR SHROUD ASY, C6**	**1**
4GS010-100	SPT, DRIVER SIDE RAD. C6	1
4GS010-110	SPT, PSGR SIDE RAD. C6	1
4GS010-120	SIDE PANEL, PSGR SIDE RAD. C6	1
4GS010-130	SIDE PANEL, DRIVER SIDE RAD. C6	1
4GS010-140	SIDE PANEL, LWR, DRIVER SIDE RAD. C6	1
7U600-656	WTHR-STRIP, .078"-.093" EDGE, .656" BULB	4
7C010-052	10-24 X 1/2" SS BHCS	4
7F010-024	10-24 NYLOCK NUT	4
2A017-752-03	SPACER, .750"OD X .927"L	4
7C080-051	M8-1.25 X 50MM HXHD CL10.9	4
7J312-000	5/16" FLAT WASHER-SAE	4
5A003-040	**DIABLO PREDATOR, '06-'07 GM**	**1**
008110	**SMALL SILVER DIE CUT DECAL**	**2**
008130	**LICENSE PLATE FRAME, VORTECH**	**1**
008447	**S/C STREET PACKAGE ASY**	**1**
009035	**LUBE ASSY**	**1**

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1. PREPARATION/REMOVAL

A. Disconnect negative cable at the battery.

B. Remove the air filter assembly and all ducting up to the throttle body.

C. Remove Mass Air Flow (MAF) sensor from factory air inlet and set aside.

D. Remove both of the coil/fuel rail covers on top of the engine and set aside.

E. Remove the accessory drive belt.

F Remove the accessory drive belt spring tensioner. The belt and tensioner will not be reused.

G. Remove the four screws securing the plastic upper radiator support to the top of the frame rails. Remove the plastic support.

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2. HARMONIC DAMPER DOWEL PIN INSTALLATION

NOTE: *The purpose of this section is to provide access to the harmonic damper bolt area so that the crankshaft can be pinned to the damper to prevent the damper from spinning on the crank shaft. The following steps will work on all or most applications. If it is not possible to get adequate clearance by performing the following steps, follow the manufacturers steps for removing the harmonic damper until there is sufficient room to work in.*

A. Remove the front wheels from the vehicle.

B. Remove the steering rack ball joints from the spindle on each side of the vehicle.

C. Temporarily remove the front anti-roll bar from the vehicle and set aside.

D. Remove the two nuts and bolts securing the steering rack to the cross member.

E. Remove the two remaining screws from the ABS mounting bracket.

F. Remove the two screws securing the power steering cooler (if equipped) and move the cooler out of the way.

G. With the steering wheel pointed to the left as far as it will go, carefully lift the rack until it comes to a stop against the frame rail on both sides. Move it around to provide maximum clearance.

H. Secure the rack in this position by blocking it up or securing it from above with tie-downs etc. (See Fig. 2-a.)

I. Disconnect the wiring and remove the engine starter hardware. Push the starter forward out of the way and install the GM J342386 flywheel holding tool in the starter location to keep the engine from spinning.

J. Remove the crankshaft damper bolt.

K. Install the supplied drill guide with the raised section piloting in the damper bore. Secure in place by installing the supplied socket head cap screw of the correct length. Do not overtighten the screw as it may distort the drill guide (its purpose is just to hold the guide in place while drilling). (See Fig. 2-c.)

L. Using a small drill motor, mark a Ø1/4" drill bit with electrical tape or a drill stop so that the hole will be deep enough for the supplied 1/2" long dowel pin. (See Fig. 2-b.) (The drill bushing is 1/2" long, so with the guide installed, the drill should go in at least 1" from the front of the drill bushing.)

M. Make sure that when drilling the hole, the tool remains perpendicular to the damper. Use extra care.

N. Remove the Socket head cap screw and drill guide.

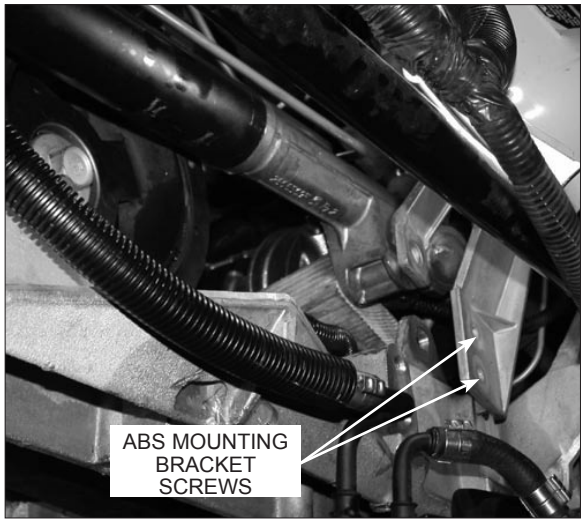

Fig. 2-a

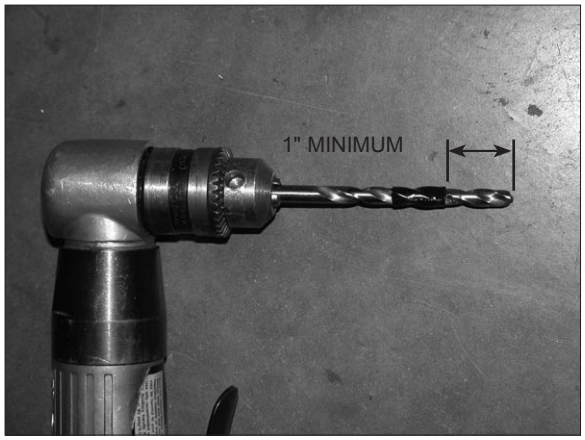

Fig. 2-b

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2. HARMONIC DAMPER DOWEL PIN INSTALLATION, cont'd.

O. Install the supplied Ø1/4" x 1/2" long dowel pin into the drilled hole with the chamfered end pointed toward the front of the vehicle.

P. Verify that the dowel pin is recessed slightly from the damper face.

Q. Install the supplied new damper retaining bolt as follows (If there are two bolts supplied, use the one that is the same length as the factory bolt):

1. Lightly coat the threads of the new retaining bolt with red threadlocker. Install and torque to 37 Ft/lb.
2. Using a 1/2" breaker bar, tighten the retaining bolt an additional 120° or tighten with a torque wrench to 250 ft-lbs.

R. Remove the flywheel tool, re-install the starter and re-connect the wiring.

S. Re-attach the steering rack and ball joints and re-install the wheels.

T. Re-install the ABS module mounting bracket and anti-roll bar.

Fig. 2-c

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3. OIL DRAIN LINE INSTALLATION (ENGINE OIL-FED KITS ONLY. APPLICATIONS WITH A V3 SUPERCHARGER SKIP AHEAD TO STEP 5)

A. To provide an oil drain for the supercharger, it is necessary to make a hole in the oil pan. On Z06 cars, drain the engine oil and remove the dry sump oil hoses from the oil pan.

B. Locate and center punch the hole. (See Figs. 3-a, 3-b.)

C. Drill 1/8" pilot hole at center location. Access to the oil drain location is restricted, so a low profile or right angle drill may be necessary as well as a longer drill bit.

D. Use the supplied 9/16" rotobroach to drill a hole in the oil pan. Break through the pan carefully so that cutout piece does not fall into the oil pan.

E. Tap the hole with a 3/8"NPT tap to approximately 1/2" deep or until the fitting can be started. Pack the flutes of the tap with heavy grease to hold chips. Again, access is restricted so inserting the tap in a socket and then using a ratchet to rotate it is helpful.

F. Thoroughly clean the threaded area. Reach inside the oil pan and retrieve any stray

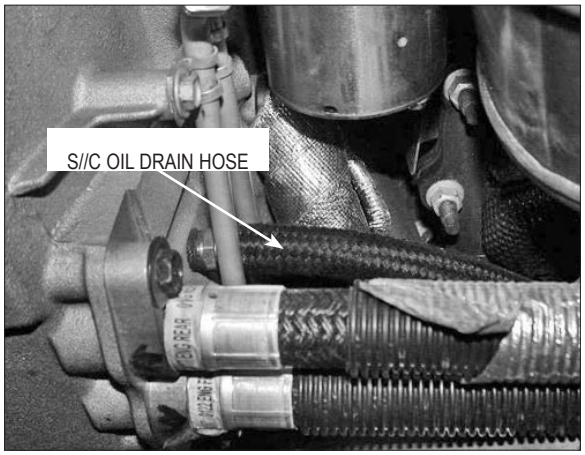

Fig. 3-a (Z06 Shown)

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3. OIL DRAIN LINE INSTALLATION, CONT'D (ENGINE OIL-FED KITS ONLY. APPLICATIONS WITH A V3 SUPERCHARGER SKIP AHEAD TO STEP 5)

chips. Apply a small amount of silicone sealer to the new threads. Apply more sealer to the 3/8"NPT hose fitting and secure in hole. Make sure a seal is formed all around the fitting.

G. Temporarily cover oil drain barb fitting to keep out debris.

H. Drain the engine oil (if needed), install a new filter and refill with fresh oil

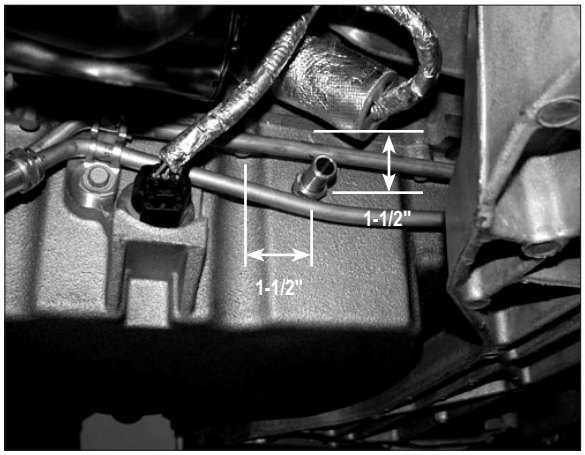

Fig. 3-b (C6)

4. OIL FEED LINE INSTALLATION (ENGINE OIL-FED KITS ONLY. APPLICATIONS WITH A V3 SUPERCHARGER SKIP AHEAD TO STEP 5)

A. Remove the factory M16 socket head oil galley plug on the driver's side of the engine.

B. Using the supplied crush washer, install the supplied M16 to –4 adapter into the engine block.

C. Connect the 90º end of the supplied oil feed hose to the fitting and tighten.

NOTE: The oil feed will be routed forward and across the front of the engine before being connected to the supercharger.

D. Temporarily cover the open end of the oil feed line to protect it from debris until connecting it to the supercharger.

E. Use tie-wraps to secure the line and protect it from kinking, abrasion, and high heat areas.

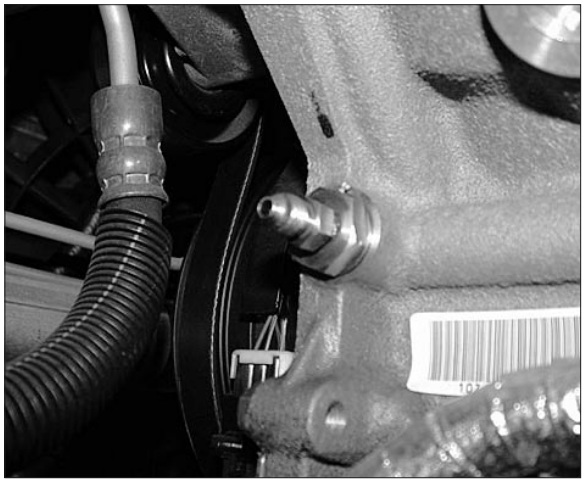

Fig. 4-a

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5. RADIATOR ASSEMBLY RELOCATION

A. **Z06 only** (all others proceed with Step B): Remove the four screws securing the oil cooler to the forward radiator shroud.

B. Remove the air temperature sensor from the passenger side of the radiator shroud (between the front bumper and the front of the radiator) and then remove the radiator shroud from the vehicle.

C. Remove the four screws securing the radiator support cradle to the bottom of the frame rails.

D. Place the four supplied .93" spacers between the frame rail and the support cradle. This step will lower the radiator assembly and create proper clearance for the supercharger assembly. Secure with the four supplied M8 x 50mm bolts. (See Fig. 5-a.)

Fig. 5-a

6. PCV VALVE INSTALLATION

A. Remove the 3/8" 180º hose that connects the intake manifold (just behind the passenger side of the throttle body) to the crank case.

B. Install the supplied PCV valve using the supplied hose and fittings so that the 5/8" end goes to the crankcase.

Fig. 6-a

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7. SUPERCHARGER INSTALLATION

***A.** Attach the oil drain hose to the supercharger and secure with a clamp.

B. Attach the supercharger mounting plate to the supercharger using 3/8-16 x 1-1/4" bolts w/washers in the location shown. (See *Fig. 7-a*.)

C. Remove the evap. control mounted on the passenger side head to make room for the supercharger. Remove the metal bracket from the evap. control.

D. Clean the front of the passenger's side head of debris.

E. With two washers installed, start the supplied M10 x 25mm bolt in the passenger's side cylinder head in the hole closest to the driver's side. Leave this bolt loose. (See *Fig. 7-b*.)

F. Install the supplied 3/8" x 5-1/4" bolts and washers in the three supercharger mounting bolt positions. (See *Figs. 7-c, 7-f.*) The screw heads must be on the cylinder head side of the bracket. Some of these bolts can't be installed after the mounting bracket is installed.

G. Making sure the mounting bracket is seated directly on the machined surface of the head and that no wires are pinched. Slide the slotted mounting bracket location behind the loosely installed bolt previously installed in the head.

H. Install the factory spring tensioner bolts through the two bushings installed in the mounting bracket and tighten. (See *Fig. 7-c*.)

I. Install the three remaining mounting bolts (*two M10 x 75mm and one M10 x 30mm socket head cap screw*) and tighten the four mounting bracket bolts in steps to 37 ft·lb (*50 N·m.*)

*** Applies to "engine oil-fed" unit only. V3 applications skip this step.**

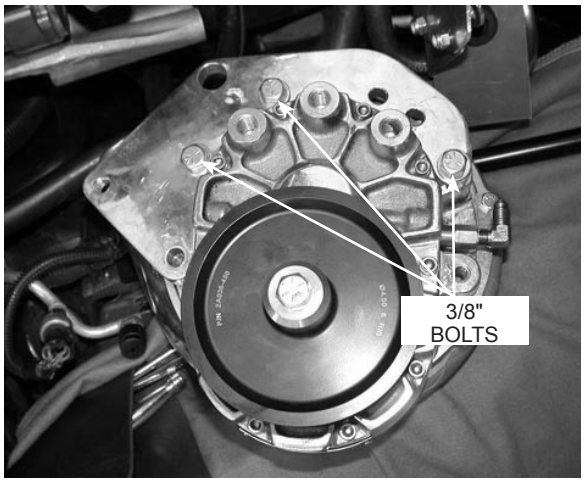

Fig. 7-a

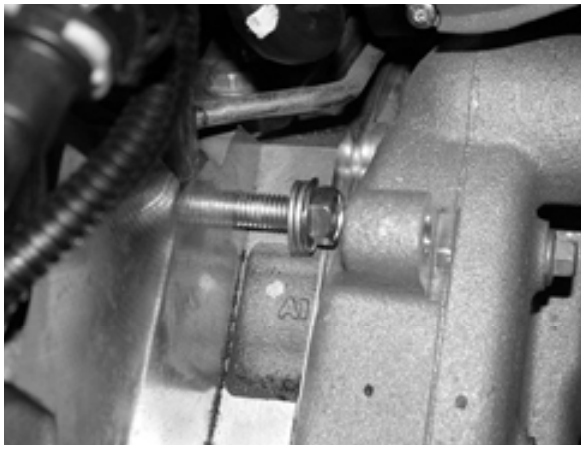

Fig. 7-b

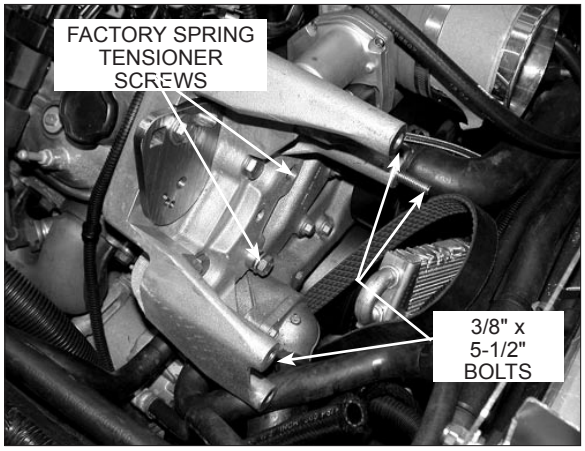

Fig. 7-c

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7. SUPERCHARGER INSTALLATION, cont'd.

J. Install the supplied aluminum idler with the snap ring's side facing the rear of the vehicle and the 3/8" thick spacer installed as shown using the supplied M10 thin-head bolt. (See *Fig. 7-d.*)

K. Install the supplied spring tensioner and tensioner plate onto the mounting bracket as shown using a 3/8" x 2-1/4" bolt and washer. (See *Fig. 7-e.*) Index the tensioner so that it pilots in the middle hole on the tensioner plate.

L. Route the supplied 6-rib belt around all of the accessories in the original manner leaving the extra length in the position shown. (See *Fig. 7-e.*)

M. Install the supercharger and plate assembly onto the cast bracket and tighten using the 3/8" bolts previously installed in the cast mounting plate. Install an additional 3/8" x 1" bolt through the mounting plate and into the lower passenger's side hole in the cast bracket. (See *Fig. 7-f.*)

> **NOTE**: Be sure to clear any hoses from the supercharger as to not pinch or kink them during supercharger installation.

N. Use a large screwdriver (*or equivalent*) to retract the spring tensioner by prying on the shoulder of the spacer installed behind the spring tensioner idler.

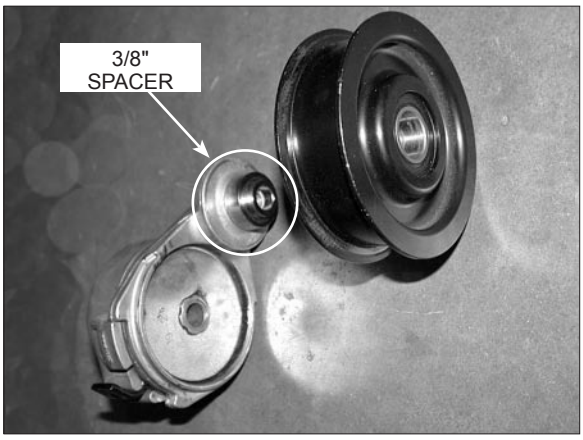

Fig. 7-d

Fig. 7-e

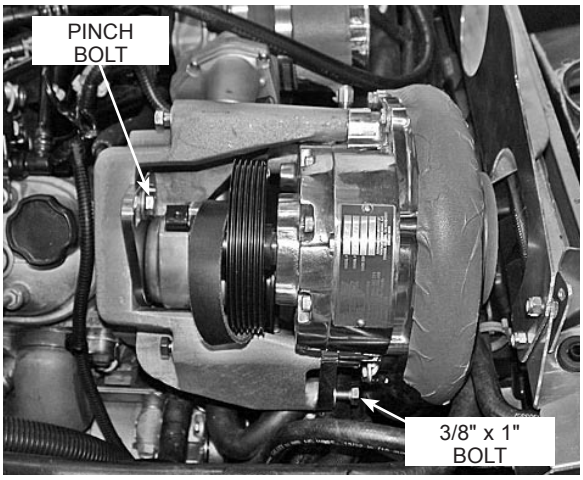

Fig. 7-f

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7. SUPERCHARGER INSTALLATION, cont'd.

O. Finish routing the belt around the supercharger and release the spring tensioner. The belt may be very tight. In this case it may be necessary to have one person retract the tensioner and have another partially install the belt on the supercharger pulley.

> **NOTE**: The pilot hole from the tensioner may require adjustment during belt fitment.

P. Using a 1/2" square drive (*ratchet*), retract the plate mounted behind the spring tensioner until the tensioner is about 2/3 of the way into its travel. Holding it in this position, tighten the center and pinch bolts and release the tensioner plate.

*Q. Install the supplied 1/8"NPT x -4 x 90° fitting from assembly 4GS130-026 to the oil feed fitting on the supercharger.

> **NOTE**: Use only clean engine oil on the pipe threads. Teflon tape or pipe sealant is not recommended as it might loosen and cause bloackage of the small oil feed orifice resulting in possible supercharger failure.

*R. Secure the oil drain hose to the previously installed brass fitting in the oil pan, making sure to route in a smooth downward manner and away from moving or hot objects.

> **NOTE**: Any dips, "uphill" sections, kinks or restrictions may cause drainage problems and possible supercharger failure.

*S. Attach the -4 oil feed hose to the -4 fitting previously installed in the supercharger. Secure away from moving or hot objects.

*** Applies to "engine oil-fed" unit only. V3 applications skip this step.**

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8. CHARGE AIR COOLER INSTALLATION

A. Remove the passenger's side inner fender liner from in front of the wheel.

B. Remove the horn assembly and re-attach in the location shown in Fig. 8-a using the supplied 10-24 hardware. Bend the horn bracket so that the horns are horizontal, will not fill with water and do not contact anything.

C. Test the horns. If they are not working properly, bend the bracket until they are not touching anything.

D. Remove the radiator shroud in front of the radiator. Loosen the lower trailing edge of the bumper cover.

E. Trim the lower radiator inlet shroud as required to clear the charge cooler as shown. (See Fig 8-b.) Not necessary to remove from vehicle.

F. Install the supplied support brackets onto the CAC as shown leaving as much of the 5/16" stud protruding as possible. (See Figs. 10-b, 10-c.)

G. Lower the CAC assembly in front of the radiator so that each bracket slides over the flange on the A/C condenser and secures the CAC.

Fig. 8-a

Fig. 8-b

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9. INLET DUCT INSTALLATION

A. Bend the radiator side-plate as shown. (See Fig. 9-a.)

B. Attach the inlet duct to the supercharger inlet using the supplied Ø3.75" sleeve and #60 clamps.

C. Install the supplied 3/8" elbow in the hole in the end of the air filter.

D. Install the air filter onto the duct inlet.

E. LS2-Connect supplied 3/8" hose from the elbow installed in the air filter to the passenger's side valve cover breather hose barb using the supplied 3/8" hose.
Z06-Remove the plastic fitting from the factory rubber inlet sleeve. Install the fitting into the plastic hose. Connect the supplied 3/8" hose from the elbow installed in the air filter to the fitting just installed in the plastic hose.

Fig. 9-a

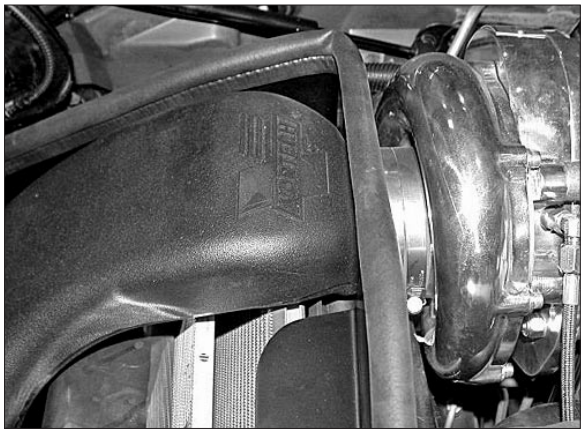

Fig. 9-b

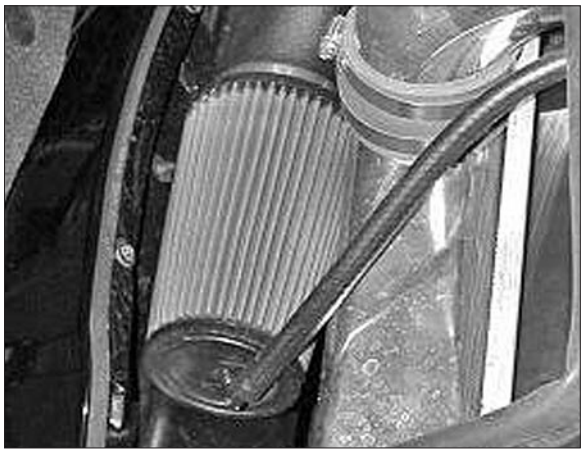

Fig. 9-c

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10. RADIATOR SHROUD INSTALLATION

A. **Z06 vehicles**, install the supplied bracket onto the passenger's side CAC studs so that it lines up with the oil cooler. Use the original hardware to secure the oil cooler. (See Fig. 10-c.)

B. Install the lower side panel onto the driver's side studs. (See Fig. 10-b.) For ZO6 vehicles, use the original hardware to go through the panel and support the oil cooler. (See Fig. 10-d.)

C. Install the air temperature sensor on the inside of the passenger's side panel using the original plastic push pin. (See Fig. 10-e.)

D Install the radiator support pieces onto the frame rail using the original hardware. (See Fig. 10-f.)

E. Attach the air temperature sensor to the inside of the passenger's side side-panel. (See Fig. 10-e.)

F. Lower the driver and passenger's side panels into place, plug in the air temp sensor and secure with the supplied 10-24 hardware. (See Fig. 10-g.)

Fig. 10-a (Passenger's Side Support) C6

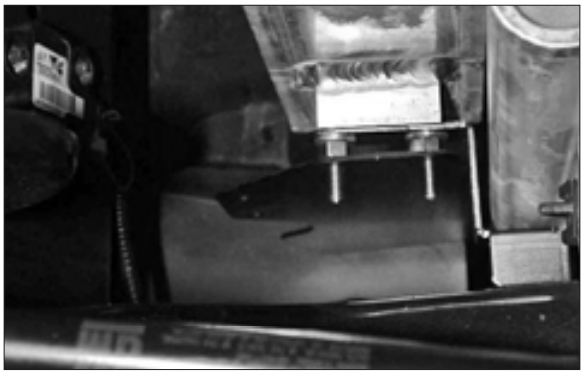

Fig. 10-b (Driver's Side Support)

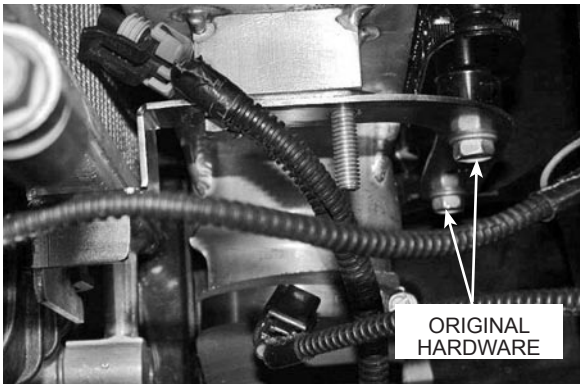

Fig. 10-c (Driver's Side Support)
Shown w/Z06 Oil Cooler Support

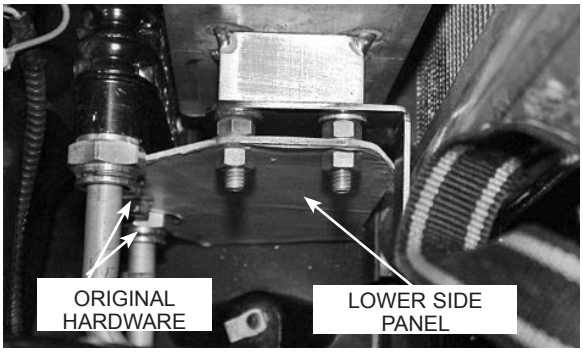

Fig. 10-d (Driver's Side Support)
Show w/Z06 Oil Cooler

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10. RADIATOR SHROUD INSTALLATION, cont'd.

G. Attach the lower part of each panel to the studs on the charge cooler and secure with the supplied nuts and washers. (See Fig. 10-g.)

H. Install the supplied weather strip around the upper edge of the radiator shroud to seal it to the hood. (See Fig. 10-h.)

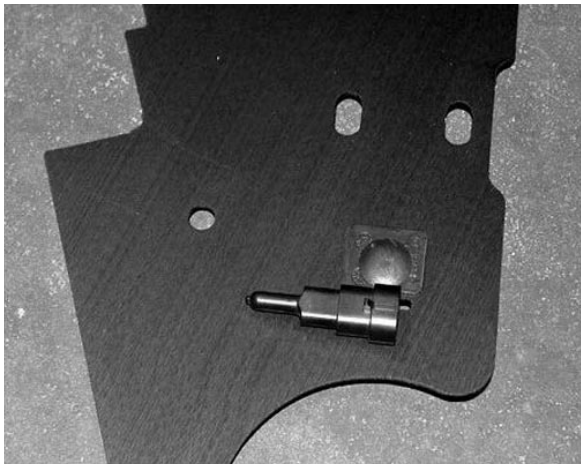

Fig. 10-e (Air Temp Sensor)

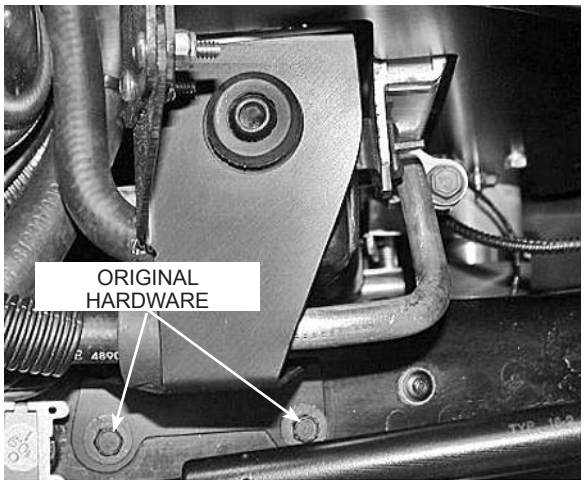

Fig. 10-f

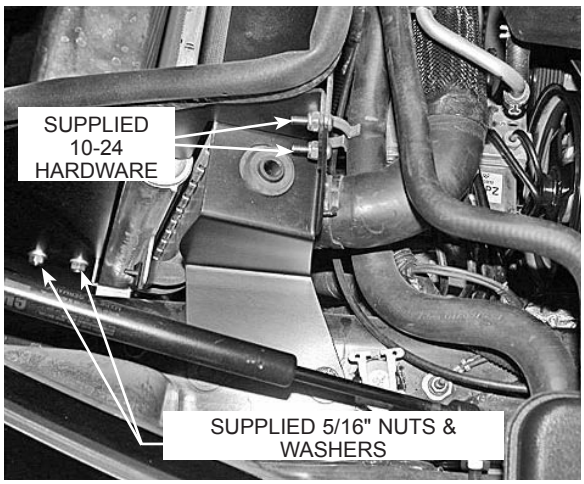

Fig. 10g

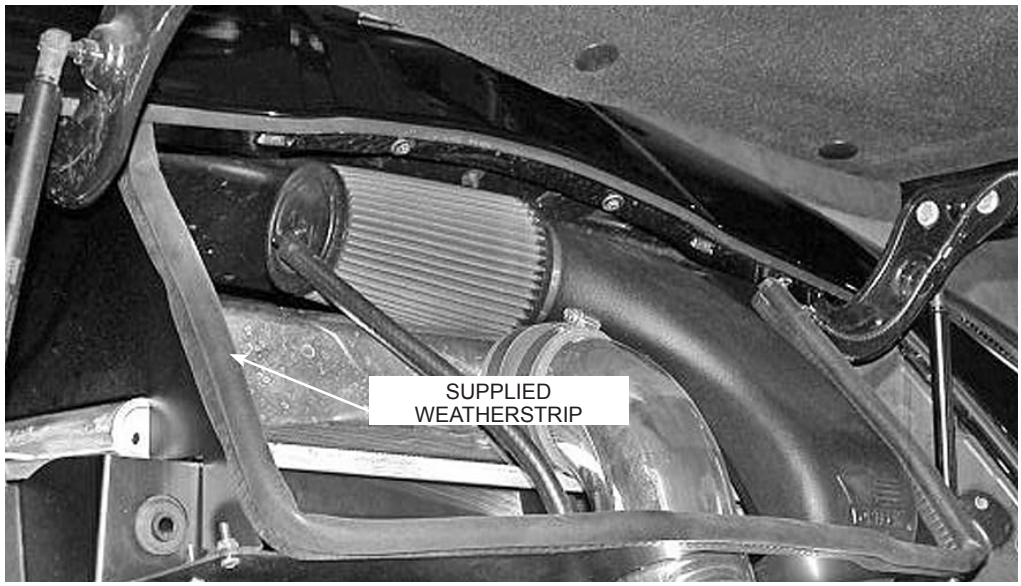

Fig. 10-h

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11. DISCHARGE DUCT INSTALLATION

A. Remove the two screws securing the power steering cooler (*if equipped*). Rotate the power steering cooler so that the passenger's side is pointed upwards towards the supercharger. Re-install the driver's side screw and secure the passenger's side with zip-ties.

B. Install a 2.75" sleeve on the supercharger discharge duct and secure with a #44 hose clamp. From underneath the vehicle, install the duct onto the supercharger discharge.

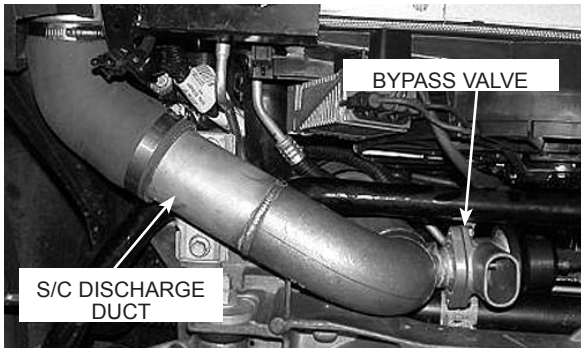

Fig. 11-a

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11. DISCHARGE DUCT INSTALLATION, cont'd.

C. Install the CAC inlet tube using a 2-3/4" to 3" reducer sleeve on the CAC and a 55° elbow to attach it to the supercharger discharge duct. Tighten clamps on all connections.

D. Install the bypass valve onto the supercharger discharge duct using the supplied gasket and hardware. (See *Fig. 11-a*.)

E. Re-install inner fender liner and cut as required to make clearance for the CAC inlet duct. (See Fig. b)

F. Cut the brake booster vacuum hose as shown (see *Fig. 11-c*) and insert the supplied TEE fitting.

G. Connect 5/32" vacuum line from the bypass valve to the installed TEE fitting.

H. **C6 LS2 Engines Only** (*LS3 and LS7 Engines skip to Step I*.):

1. Attach the 3-1/2" end of the supplied 4" x 3-1/2" short reducer to the outlet of the mass air flow sensor (*MAF*).

2. Attach the 4" end to the throttle body. (See *Fig. 11-d*.)

3 Orient the MAF so that the element is horizontal.

4. Proceed with Step 1..

I. **LS3 and LS7 Engines Only** (*C6 LS2 Engines Skip to Step J*.)

1. Attach the MAF element removed from the air filter housing in Section 1 to the supplied aluminum MAF housing using the supplied M4 hardware.

2. Install the 4" sleeve onto the outlet of the Mass Air Flow sennsor (MAF). Attach the MAF to the throttle body. (See *Fig. 11-e*.)

3. Orient the MAF so that the element is horizontal.

J. Install a 4" x 3-1/2" reducer sleeve onto the inlet of the MAF.

K. Install a 3-1/2" sleeve on the outlet of the CAC.

L. Install the supplied 3-1/2" aluminum elbow from the CAC to the MAF.

M. Tighten hose clamps on each connection.

Fig. 11-b

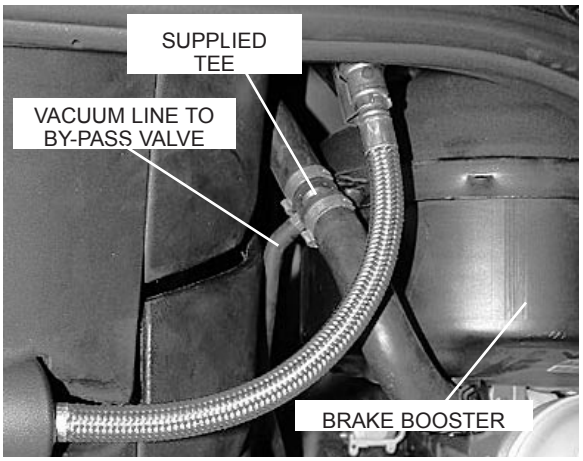

Fig. 11-c

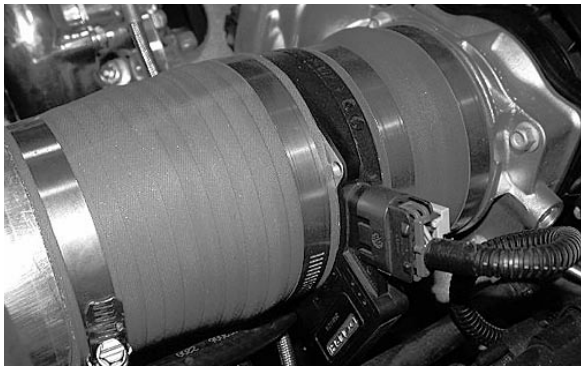

Fig. 11-d (C6 LS2)

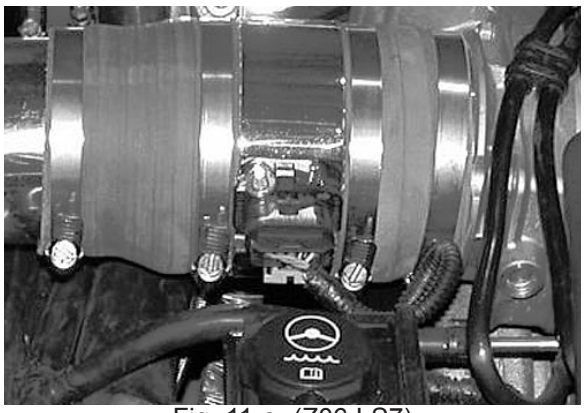

Fig. 11-e (Z06 LS7)

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12. FUEL INJECTOR REPLACEMENT

A. Relieve the fuel system pressure

B. Disconnect the eight fuel injector electrical plugs.

C. Remove the four screws that hold down the fuel rail on the intake manifold. Lift up on the rails evenly and remove all eight injectors.

D. Remove the lower O-ring from each of the supplied injectors and set aside. They will not be re-used.

E. Replace the lower O-ring on the supplied injectors with the supplied O-ring.

F. Remove the injector retaining clips from the factory injectors and install them on the supplied injectors.

G. Using a small amount of clean motor oil, lightly lubricate the O-rings on both ends of the Vortech supplied fuel injectors.

H. Install the new injectors into the fuel rails with the terminals facing outward.

I. Carefully lower the fuel rail/injector assembly down onto the intake manifold. Check to see that each injector has been seated properly into the intake manifold.

J. If the newly installed injectors are longer than the factory parts, install a supplied (.38"L) spacer under each fuel rail mounting tab and use the longer supplied hardware. (Bending the steel fuel rail capture plate may be necessary to allow raising the fuel rail.)

K. Tighten down the fuel rail assembly.

L. Attach the injector plugs to the injectors using the supplied adapter harnesses (if needed).

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13. REFLASH COMPUTER

IMPORTANT! To ensure trouble-free programming of your vehicle's computer:

- Make sure the vehicle's battery is sufficiently charged.
- Turn off all accessories and close doors to prevent unnecessary drain on the battery.
- Do not attempt to program your vehicle while a battery charger is connected.
- Improper battery voltage will result in failure of the programming process.
- Do not disconnect the cable or turn off the ignition during programming.

A. Reconnect the battery.

B. Remove the “Onstar” and “RDO/s-BAND/ VICS” fuses from the fuse box located behind the passenger’s side footwell. (See Fig. 13.a.)

C. Locate the vehicles OBD2 connector located below the dash on the driver’s side of the vehicle.

D. Attach the OBD2 connector from the Flash tool that is provided in the kit to the vehicle’s OBD2 port. Make sure this connector is seated all the way in the vehicle’s OBD2 port. You do not want this connector coming out during programming or damage may occur to the vehicle’s ECM.

E. The Reflash tool should power up and display three parameters.

1. Performance Tune
2. Diagnostics
3. Options

F. Select “Performance Tune” and press the enter button in the middle of the arrow keys.

G. Read the disclaimer entirely, then select agree and press ENTER.

H. At this point follow the instructions on the screen displayed on the reflash tool. If you have any questions, either refer to the manual that is provided with the reflash tool or contact our service department for further assistance.

I. Turn the ignition on (*do not start the vehicle*). Set the parking brake and press the ENTER button to continue.

NOTE: Do not disturb the cable, or turn the ignition off during this time. If the programming is disrupted, the computer will not start or run your vehicle!

J. SELECT TUNE will be displayed at the top of the screen. Use the arrow keys to select the appropriate tune for your vehicle and press the ENTER button. You will have a choice of two to choose from:

1. Vortech (*Use for installing kit*)
2. Original Backup

K. Continue to follow the screen and when finished, unplug the reflash tool from the vehicles OBD2 port.

L. Reinstall the previously removed fuses.

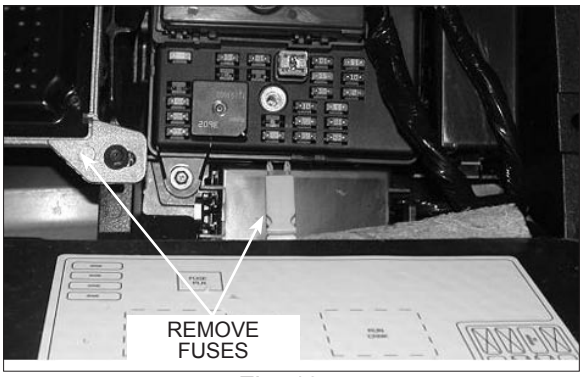

Fig. 13-a

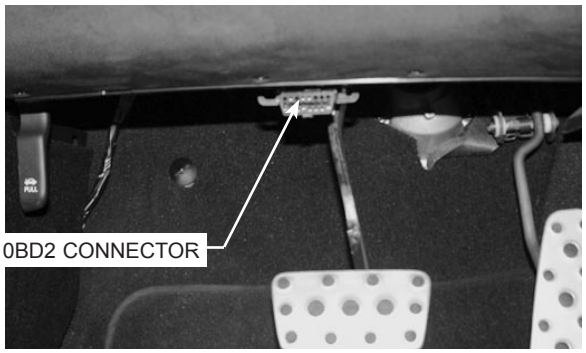

Fig. 13-b

Fig. 13-c

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14. FINAL ASSEMBLY AND CHECK

A. If your vehicle has gone over 20,000 miles since its last spark plug change, it is a good idea to change the spark plugs now, before test-driving.

B. Make sure that oil drain to oil pan fitting is tight and that the engine is filled with factory specified oil.

C. Make sure radiator and overflow tank are filled with 50/50 coolant/water mix.

D. Make sure that the vehicle is filled with 91 octane or higher fuel before commencing a test drive. "Key on" *(DO NOT START)*, the vehicle in order to cycle the fuel pump. Ensure that the fuel rail and injectors are sealed properly.

E. Check all fittings, nuts, bolts and clamps for tightness.

F. At this point it is OK to start the vehicle.

WARNING: Do not attempt to operate the vehicle until ALL components are installed and ALL operations are completed including final check. Failure to do so may cause PREMATURE FAILURE OF MAJOR COMPONENTS.

G. Recheck all fluid levels and verify that no hoses, wires, etc. are near exhaust headers or moving parts and that there is no fluid leakage.

H. Tuck evap. control solenoid with mounting bracket removed, on the passenger side head to be covered by engine cover. (See Fig. 14-b)

I. Install both of the engine covers (*passenger's side needs minor trimming to clear supercharger mounting bracket*). (See *Fig. 14-a.*)

J. Test drive the vehicle by gradually working up to full throttle and paying close attention to any abnormal sounds or engine detonation. Never continue to operate an engine where it is detonating (*pinging*).

K. Read the **STREET SUPERCHARGER SYSTEM OWNER'S MANUAL AND RETURN THE WARRANTY REGISTRATION FORM** within thirty (*30*) days of purchasing your supercharger system to qualify for the limited warranty.

WARNING: Never operate your engine at full throttle when the engine is cold. Always allow plenty of time for the oil to reach full operating temperature before running above 2,500 RPM. Full supercharger operating temperature is generally achieved only after the engine water temperature has been at the normal indicated operating range for two or three minutes.

Fig. 14-a

Fig. 14-b

Fig. 14-c

For internally lubricated V3 units only

This supercharger has been factory pre-filled with special Vortech synthetic lubricant. Oil does not need to be added to a brand new unit; however a fluid level check should be performed.

Prior to operating the supercharger on the vehicle and after installation onto the vehicle:

Remove the factory installed flat-head brass shipping plug (not the dipstick) from the top of the supercharger case. Replace the sealed shipping plug with the supplied "vented" plug. Do not operate the supercharger without it. Check the supercharger fluid level.

Fluid level checking procedure:

1. Ensure that the .06" copper sealing washer is located on the dipstick base.

2. Thread the clean dipstick into the unit until it seats.

3. Once the dipstick has seated, remove the dipstick from the unit. Fluid should register in the crosshatched area on the dipstick.

4. DO NOT OVERFILL!!! Drain excess fluid from the unit if it is above the maximum level on the dipstick.

Check the fluid level using the dipstick at least every 2,500 miles.

Initial supercharger fluid change must be performed at 2,500 miles. The supercharger fluid must be changed at least every 7,500 miles.

Drain the fluid, refill the unit with 4 oz. of Vortech V3 lubricating fluid and then confirm proper oil level using the dipstick. DO NOT OVERFILL!!!

WARNING: Use of any other fluid other than the special Vortech lubricant will void the warranty and may cause component failure.

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